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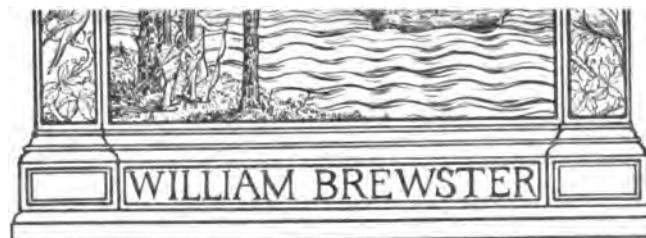


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VOL. VI.

ALBION, N. Y., JANUARY 15, 1900

No. 3

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### Notes on American Land Shells.

[Continued from December Number.]

All the species are extremely voracious, and devour an incredible quantity of food in a short time. Those found in this country are generally supposed to be vegetable feeders, but nearly all of them subsist occasionally on animal matter, of which they seem to be fond, and when in confinement sometimes attack and devour each other; and the foreign genus *Testacella*, is known to prey habitually upon earth-worms. It is probable, therefore, that in their natural condition all of them at times resort to animal food and devour earth-worms, insects and their larvæ, and such animals, as, inhabiting

the same retreats, are like themselves slow of motion and defenceless. It is certain, however, that the principal food of those species which frequent the neighborhood of gardens and houses consists of the tender leaves of succulent plants and of ripe fruits. Upon these, in Europe, they perpetrate serious ravages, often destroying in a night the labors and hopes of the gardener, and in some years committing so much injury and interfering to such a degree with the prosperity of the agriculturalist that they are ranked among the scourges of the country. Like caterpillars, locusts and rats, they are considered to be perpetual enemies and a war of extermination is carried on against them. To limit the extent of the evil many remedies have been proposed, and among others the prayers and exorcisms of the church have been claimed, but without any considerable abatement of it. Happily, we are not in this country subject, in the same degree, to the mischief done by these animals, for their excessive increase is kept in check, probably, by the vicissitudes of the climate; but it may be useful to know that a border of ashes, sand or sawdust, laid around the bed containing the plants it is desired to protect, will prove an impassable barrier to the slugs, so long as these substances remain dry. When the slugs attempt to pass the barrier they become entangled in the dry ashes or sand, which envelops them entirely. The particles of these adhere to the viscid surface of the animals which, in vain endeavoring to disengage themselves from by secreting their mucous, at length become exhausted and die.

Their growth is remarkably rapid. The young have been known to double

their size and weight in a week. The earliest hatched young of the season generally attain their full maturity before the end of the first year, although they may afterwards increase somewhat in bulk. Those which leave the egg at a later period mature during the second year. Individuals kept in confinement and fully fed reach a much greater size than when in their normal condition. They possess in a remarkable degree the power of elongation and contraction of the body. When fully extended it is long, narrow, more or less cylindrical, and generally terminating in a sharp point. The carina of the carinated species disappears. The head is protruded far beyond the mouth, the eye peduncles are long, slender and graceful. The mantle is changed from an oval to an elongated form, with parallel sides and rounded ends. The glands are lengthened, lose their prominence and appear nearly smooth. But when alarmed by the touch of a foreign substance an instant change occurs, and a sudden contraction takes place. The eye peduncles and tentacles are retracted and the head is drawn under the mantle. The anterior edge of the mantle is brought to the level of the foot, and its form becomes nearly circular. The body is shortened to one fourth its former length and tumid; the back is rounded and rises high in the center, and the skin is rough with prominent glandular protuberances. The carina, when it exists, become conspicuous. This is the form which they assume in their retreats when they retire to protect themselves from the effects of drought and cold. It differs so much from their form when in motion that one not well acquainted with them would hardly recognize the same animal in its new shape. It is among the *Limaces*, perhaps, that the change is most striking and the difference of form between the extremes the greatest.

They commence reproducing their kind as early as the end of the first year, before they have attained their

full dimensions, and hence the eggs of the same species often vary considerable in size. These are deposited in a cluster of thirty, or thereabouts, in the soil and in other moist and protected situations; or if the species be one that frequents houses, then in the crevices or corners of the walls or under the decaying planks of cellars. In general form and appearance they resemble the eggs of the shell-bearing genera, but differ from them in several important particulars. The eggs of the snails are all opaque, while those of the slugs are more or less translucent, permitting in the *Limaces* a view of the cicatricula, and affording an opportunity of observing its developments. Those of the former are all deposited free or unconnected, except by a slight agglutination; those of the latter, in some of the species, are connected together by a prolongation of the outer membrane at their longest diameter, thus forming a sort of rosary. The deposits of eggs, when made, are abandoned by the slug, which then removes to some other convenient place. A considerable number of separate deposits are made during the year.

#### Nature Study.

We are coming to a day when the importance of the study of Nature is beginning to be recognized. In many of the Normal Schools instructors in "Nature Study" are already employed, at teachers' institutes "Nature Study" is becoming a common topic for the lecturers, and in academies and colleges collections are being made, and museums established. Although many of the lectures, and not a few of the instructorships give evidence of attempting to carry on a large business upon a small capital, and although the collections are for the most part entirely unorganized and in such a chaotic state that the instructors can make but little use of them, they prove that there is a growing desire—vague though it may be—for more thorough and sys-

tematic work in the study of natural history.

One of the most common mistakes that the individual collector makes is to imagine that he should begin with something that is not readily accessible. The person who lives among fossiliferous rocks yearns to collect and study sea shells. One who lives at the sea shore takes no interest in the mollusks, crabs, and star fishes that are so common, but would like to collect minerals. Now, this is no yearning for the study of nature: it is simply a desire for something new or queer, that may be satisfied, possibly, with a collection of tin tags, buttons, or scrap pictures.

The student of nature must make a collection. To make this collection, begin right. Collect something common, that you see every day, be it mineral, mollusk, fossil, insect, or plant—anything within the realm of mineralogy, zoology, or botany. Learn all that you can about it by a careful examination with the naked eye and a good pocket lens. Then supplement this knowledge with all that you can learn from such books as you have or can buy or borrow. If you do not thus obtain the information you seek, put yourself in correspondence with a naturalist who can furnish the desired information. Then label and catalogue your specimen, and take good care of it. As soon as your collection assumes sufficient proportions to require or even permit it, classify, and arrange all that you have, and thereafter always label, catalogue, classify and arrange each specimen as soon after you collect it as possible. Never leave specimens in an unorganized condition for weeks and months, waiting for a "more convenient season". It will make you an unsystematic and slovenly naturalist, and be very likely in time to take away your love for thorough work in any line of science. If you would enlarge your collection beyond the results of your own personal collecting, gather large numbers of

duplicates and exchange them with other collectors, whose addresses may be easily obtained from science papers.

It should be a fixed principle with any collector, or any person in charge of a collection, that any specimen worth a place in a collection should be made to show to the best possible advantage.

Nice type or pen printed card labels, and pure white trays, and suitable devices for showing small specimens to advantage should be used.

A collection should be—yes will be, a monument of the taste displayed by the collector, or a standing advertisement of the systematic—or unsystematic—management of the educational institution possessing it.

It is not to be expected that the chancellors of universities, can give their time to the proper inauguration of their museums, even if their knowledge of natural history would enable them to do so; but they should never forget the story that a well equipped museum will tell to their students, and to all who may even visit the educational institutions over which they preside.

The adage "A thing of beauty is a joy forever," holds as true of a natural history collection as of any thing else, and museum inauguration is becoming an art calling for a specialist. Most universities and many colleges, and academies and normal schools have, and all should have, permanent curators, not only to properly organize the material they possess, but to augment the collections by means of exchanges and purchases. Schools that cannot afford to employ permanent curators, should have their collections properly organized by persons whose knowledge of natural history, and whose taste and experience in such work qualify them to do the work. After a thorough organization of the accumulations of years, accessions may often be safely intrusted to the instructors.

It should be remembered that specimens bear the same relation to nat-

ural, that apparatus does to physical science, and deserve the same care.

CHARLES LE ROY WHEELER,  
Prompton, Pa.

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**A Trip to Fauquier Co., Virginia;  
With Notes on the Specimens  
Obtained.**

On the 14th of June, 1899, I left Providence, R. I., for a little spot about fifty miles west of Washington City, in the Bull Run mountains of Virginia. In the summer of '98 I visited in this locality and I knew it to be a good country for collecting.

I reached my destination in the evening of the next day and was warmly welcomed at the pretty little cottage of Mr. White who was to be my host during the few weeks that I could spend in this paradise for a lover of nature. The cottage is situated a short way up on the mountain side and is really shut in on three sides by the slopes of the mountains, so that on all these sides there is, in summer, a continuous bank of dense green foliage. The exposed side gives us a glimpse of the surrounding country, including a bit of the railroad and a stone mill.

This country is but little worked over by collectors. In 1898 when I was in the same district for two months I did not hear of a single specimen of the genus "collector". Naturally with so few people to bother them birds are quite abundant and the same is true of specimens in other branches of the animal kingdom.

There is a small stream of water, "run" they call it, which passes through their district and the banks of this stream fairly team with animal life. There are all kinds of wooded and brush patches on the mountain sides and at the very top of the mountain on which Mr. White's cottage (Bee Cottage I shall call it hereafter) is situated is a huge pile of boulders called "Buzzard's Peak." This rock pile is the breeding place for numerous turkey buzzards and in its crev-

ices many a wary fox has made his lair.

I had come prepared to collect specimens of all kinds but it was not my intention on this trip to do any great amount of collecting. I wanted rather to ramble around, get better acquainted with the country and people and while doing this to pick up more or less material for my collection. I had my camera along also and "took" many a pretty bit of scenery.

Many people seem to have a very wrong idea of the climate of our southern states and of the South as a whole. I have been in Fauquier Co., Virginia, all the summer months and I have seldom found it as hot there as at my home in Providence, R. I. Then too I have worn a medium weight sweater at the equator without finding it uncomfortable. Perhaps I should explain that this last experience was at the Galapagos Islands which possess a cooler climate than most equatorial countries. The climate of the Bull Run mountains is generally very pleasant. If there is any breeze you are almost sure to get it at Bee Cottage. There is a difference of several degrees in temperature between the cottage on the mountain side and the railroad station which is located in a gap between two mountains only a mile distant.

The first two days I spent in getting settled. On the morning of the next, one of Mr. White's daughters came into the house to inform me that there was a "peckerwood" in a tree in the yard. I immediately took my gun and went out to investigate thinking that perhaps it was a Pileolated Wood-pecker, a bird I wanted to obtain. I was mistaken, however, for instead of a Pileolated It was a Hairy Wood-pecker which was pecking away industriously in the topmost branches of a large locust tree that stood very near the house. I shot it and made up its skin soon after, this making my first capture.

A little later in the day, accompanied by Mr. White's youngest son, went on a salamander hunt up the mountain side. We turned over all the old logs and stones that we could find and secured quite a number of specimens of small salamanders of several species. The red-backed (*Plethodon erythronotus*) appeared to be the most common and we found them of all sizes from little fellows not much over an inch in length to good sized adults measuring three and a half inches. They seemed to live under both stones and old logs and in some cases we found several near together under the same covering. The young were found in nearly every case with the adult specimens and as they were very easily captured it is possible that they are more quiet when with their young. I quote the following notes in regard to this species from the "Report of the Geological Survey of Ohio."

"The Red-backed Salamander is the first of this group seen in spring, having been observed in the middle of April. I found them near Vassar College in New York state, on April 6, 1878. It occurs in moist woody places, hiding under stones and old logs, and when these are upturned, it, if alone, quickly disappears in the decaying wood, moss, leaves or earth; but if accompanied by its young, neither it nor its little ones attempt to escape until touched. It climbs glass by adhering with its abdomen, is frequently on herbs, and, if disturbed, springs away by a sudden uncoiling. They are very agile in their motions, walk rapidly, run by sudden and irregular jerks and have been kept alive an entire year by allowing them dead leaves constantly moistened. Their food appears to be small snails. When the young are found, as a rule, they are accompanied and often apparently being fed by their parents, but are occasionally alone. Their little ones, as well as their eggs, occur under the moss and bark of decayed trees. The

latter are found in bunches of from six to eleven each, and individually are about three-twentieths of an inch in diameter and have been found in June at Ann Arbor, Michigan; Fitchburg, Massachusetts; and in August in the White Mountains.

"The young are supplied with branchiæ, but lose them early, that is, three or four days after hatching. The little ones usually have the same markings as the adult but are often bright red, spotted with black. The younger larvæ are nearly white, the older olive with dark spots. As age advances the color deepens, becoming a brown, and very old specimens often have a purplish tint."

This gives us a very good idea of the life history of this little salamander. I found the color of the dorsal stripe to vary considerably in my specimens. In some it was much more yellow than red, and in many of the younger individuals it was mixed with a good deal of black.

Before going any farther with the account of my walk I should like to give some account of the other species of salamanders which I found at this time, it being my intention to make this paper, as far as possible, a collection of notes on various animals observed during my stay in Fauquier Co., Virginia.

Perhaps the most abundant species next to the Red-backed was the Gray Spotted or Viscid Salamander (*Plethodon glutinosus*, Green.)

This species is larger than the preceding, adult specimens measuring nearly six inches. I found it in damp situations under logs and stones. If I remember rightly I found most of my specimens near the top of the mountains. Its general color is black, dotted all over the back and sides with spots of gray, these spots being larger on the sides. There are fourteen costal furrows, a distinct cervical fold and a longitudinal furrow along the back. This furrow is much more distinct in some specimens than in oth-

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ers. I quote a short paragraph from Cope's "Batrachia of North America" as to its distribution and habits:

"The range of this species is from Texas to Maine. It appears to be common in Massachusetts and Maine.

"This salamander is entirely terrestrial in its habits. It is found much more abundantly in the mountainous districts and haunts rocky localities as well as forest mold and fallen logs. I have found it more abundant in New York than in southwest Virginia. I believe that it prefers a cool climate. In the flat and warmer tertiary and cretaceous eastern coast region it is rare. In southern Pennsylvania I have only found it on the northern exposure of the south Chest valley hill and never on the southern exposure or other parts of the north hill. In southwest Virginia it is more common in caves than on the surface."

I saw a good many specimens of the red newt (*Diemyctes miniatus*). This species is about three and one-fourth inches long. The color of the back and sides is a bright red which is apt to disappear in preserving liquid. On each side is a row of five or more ocellate spots, while the whole under surface is covered with small black dots. Often after a storm these little fellows appear in considerable numbers in some localities. I have noticed this fact both in Virginia and in Rhode Island and have heard that it holds true in Connecticut. That they eat each other is a fact easily learned by confining some in a small box for a few weeks. They will disappear one by one, the larger ones remaining alive the longest, and an apparent increase in the circumference of one individual is a sure sign that the life of another has been sacrificed.

There is quite a full account of the habits of this species in the Geological Report of Ohio which I think is worth quoting at length:

"The Crimson Triton is found under stones and decayed wood and leaves and also in brooks and pools.

Holbrook observed them swimming with vivacity under ice an inch thick. Storer found fragments of *Lymnea*, *Physa*, insects and spiders in their stomachs and also ascertained that they cast their skin in June and that the new cuticle was in every respect similar to the old. They are not so rapid in their motion as *Plethodon erythronotus*. In confinement they thrive well if allowed a daily supply of fresh water and a sufficient quantity of flies which they seized and swallowed apparently by several continued efforts. Their eggs are laid attached to weeds and grass in shallow water in albuminous masses, looking somewhat like those of frogs, and the young does not lose its brahchia until late in development,

"Mr. Howard A. Kelly relates that he has taken the Red Egt *Notophthalmus* (*Diemyctes*) *viridescens*, found in Sullivan county, Pennsylvania, and kept them in a dark box filled with moss and saturated with water, and that all the specimens thus treated changed from the vermillion of the *miniatus* to the dull or olive of the *viridescens*; that upon being thrown into water they struggled to land but soon returned to the water, returning to the surface at intervals for air. They were kept alive for some time and always seemed satisfied with their aquatic residence. Such an observation would seem to indicate that instead of specific or even varietal differences in this species we have simply the changes due to age and condition."

Cope in his "Batrachia of North America" states that *L. miniatus* is identical with *D. viridescens* and that the two forms are stages of "one and the same animal." He says that the differences between them are simply those caused by changes in season and environment.

In the cold mountain springs I found many specimens of the Spring Newt (*Desmognathus fusca*). This is an active species. It seems to prefer shal-

ow running water and, where disturbed, will disappear with great rapidity amongst the weeds and gravel, its dusky color aiding in its concealment. The average length is about four and one-half inches. The color is generally brown above, with gray or pink shades, both the sides and belly being marked. Cope mentions a variety of *D. fusca* as occurring only in the southern states but I did not secure any specimens of it.

This salamander hunt occupied several hours and was rather tiresome physically but I felt well repaid as did my assistant by the number and variety of specimens secured. Upon reaching the house again I put the salamanders into five per cent. formalin, keeping the different varieties separate and labeling all fully so that data would not be lacking when I came to study them at home.

From this time on I took trips almost daily, sometimes with ornithological intent, sometimes after snakes or turtles, but always with a deep respect for the beautiful panorama of nature constantly changing before me as I wandered over the hills and through the valleys. I shall not try to give an account of these trips in any regular order but shall dwell more particularly on a few excursions that were of especial interest to me and on the specimens secured.

Being desirous of collecting some rough skeletons of mammals, I interested one of Mr. White's sons, a noted trapper, in my behalf and together we set a line of traps up to the very top of the mountain—the rock pile which I have mentioned before as being called Buzzard's Peak." Every morning early for several days we made the round of these traps, but finding game rather scarce we finally gave it up. I will give a few brief notes on the mammals obtained including also a few species which Mr. White traps every winter.

*Vulpes fulvus* (Red Fox). This species seems to be fairly common in

the northeastern part of Virginia. In the vicinity of Mr. White's cottage they were quite plentiful although hunted a great deal with hounds. On two occasions I saw one enter almost into the dooryard and that too in the daytime. Neither of these animals seemed particularly disturbed at seeing me but turned around slowly and loped off through the wood. The hounds belonging to the people in the vicinity sometimes get loose at night and on these occasions they have a grand fox hunt of their own, spending a whole night in running around and barking.

*Vulpes virginianus* (Gray Fox). While not as common as the fore-mentioned species the Gray Fox is still taken not infrequently. I did not see one at all but on several occasions when the hounds were having one of their noisy hunts Mr. White told me they were after a Gray Fox. He said that there was a difference in the course taken by the two species of foxes when pursued by hounds, the Gray Fox keeping for as long a time as possible in a comparatively small area dodging back and forth in hopes of throwing the hounds on a false scent, while the Red Fox relied more on its legs for escaping. Mr. White traps several each year.

*Putorius vulgaris* (Weasel). I believe this species to be quite common. Have heard the residents mention it as being destructive to their chickens which are also subject to attacks from the Fox, Skunk, Mink and Rats. I saw only one specimen.

*Putorius vison* (Mink). The Mink is quite common, finding excellent dwelling and hunting grounds along the banks of the various winding streams with which this country is well supplied. Mr. White traps many each winter.

*Lutra canadensis* (Am. Otter). During the winter of 1896 Mr. White caught his first specimen of this species. Since then he has caught two or three each winter and said that he

thought that by employing a larger number of traps and extending his range a few miles he might obtain even more. This would indicate that the Otter is fairly common in this vicinity at least and since they are but little molested their numbers should be on the increase.

*Mephitis mephitica* (Skunk). A very common species. During the past three or four years Mr. White has trapped about five hundred within a radius of eight or ten miles and they are still abundant.

*Procyon lotor* (Raccoon). The Raccoon was at one time common in northeastern Virginia and it is not infrequently taken now. "Coon hunts" used to be of frequent occurrence in Fauquier county, but with the great decrease in the number of "coons" the practice has been to a great extent abandoned.

*Atalapha noreboracensis* (Red Bat). Every evening numbers of these little bats would appear, flying swiftly about in their search for insects.

*Lepus americanus* var. *virginianus* (Southern Varying Hare). Common all through this section where it is much hunted during the fall and winter.

*Neotoma floridana* (Wood Rat). Several were caught in one trap. They appear to be very abundant.

*Fiber zibethicus* (Muskrat). Very common along the banks of the streams.

*Sciurus hudsonius* (Red Squirrel). Mr. White informed me that the Red Squirrel was quite scarce. I did not see any during either of my visits.

*Sciurus niger* (Southern Fox Squirrel). Fairly common, though according to all accounts it is not nearly as plentiful as it was a few years ago.

*Sciurus carolinensis* (Gray Squirrel). Squirrel hunting is a common sport in Virginia and catching the infection I accompanied one of the neighbors on two or three of his trips. Either the squirrels had temporarily left the county or else they were en-

tirely too shrewd for us as I never had worse luck in any hunt. I believe we secured one squirrel each time and I remember one morning we hunted for several hours without firing a shot, securing one squirrel from its hole, some fifty feet up in a large tree, by means of a pliable forked stick. By inserting the forked end of the stick into the hole as far as possible and twisting it around a few times a hold was obtained on the tail of the squirrel and it was pulled out and brought down.

At Bee Cottage they had a squirrel of this kind which they had raised by hand from a very young specimen. There was no cage to confine him. He was perfectly free to go and come when he pleased and he seldom failed to show up at meal time when he would jump from one person to another in search of eatables, not infrequently leaving scratches to show where his sharp claws had struck. Peanuts were an especial delicacy for him. As a rule he was fed with kernels of corn though he ate most anything of a cereal nature. The rapidity with which he could take up the corn kernels, eat the germ or "chit" and throw the rest away, was astounding. It fairly kept one busy to supply him with fresh ones. He seemed to like to be fondled and would enter into a romp as though he enjoyed it, though if roughly handled he would lose temper and disappear for a half day or more. I believe that "Buzzer" as we called him has recently left civilization for the woods to fall a victim no doubt to some hunter's gun.

*Sciuropterus volucella* (Flying Squirrel). The Flying Squirrel is common. They have had several at Bee Cottage for pets, taking them from the nest when very young and raising them by hand. They take readily to a corner of a handkerchief soaked in milk and seem to thrive well in captivity.

*Tamias striatus* (Chipmunk). Very common. They are often seen run-

ning along the old stone walls of the fields and roads.

*Arctomys monax* (Woodchuck). Common. Mr. White catches many of them in his traps and on several occasions I saw fresh signs of them.

*Didelphys virginianus* (Opossum). The Opossum is quite common. Mr. White catches many of them and from him I secured several skulls. I saw one live specimen, a female, with eight or nine young about the size of half grown rats.

There are of course many species of mammals which I have not mentioned that undoubtedly occur in this section. On my next trip I hope to be able to give more attention to the small mammals, such as shrews, moles, mice, etc., many of which could be easily obtained.

One insect pest peculiar to the South is the "chigger." Though extremely small they are capable of causing a great deal of trouble and on several occasions I had rather more than I desired of their company. They seem to stay on or among the thick shrubbery of the woods and when anyone walks through this, they abandon the vegetable for an animal feeding ground. By eating their way into the skin they produce little irritating sores which increase rapidly in size when scratched. I used to lay open these little sores and treat them with antiseptics and found this a very good treatment. By taking a bath after each day's tramp through the woods one can keep fairly clean of them.

On some of the old rail fences which border Virginia roads for miles, I found the pretty little lizard *Sceloporus undulatus* quite abundant. They were not very timid and one day while out driving I killed several with the whip. They seemed to be most abundant at about eleven o'clock in the morning. When once disturbed they moved very swiftly although most of those that I noticed did not travel more than a few feet at a time.

I saw several species of snakes. A water snake, *Tropidonotus Sipedon* I think, appeared to be the most common. It is locally known as the "water moccasin" though it has no venomous qualities. This species is found along the "run" where it is not uncommon to see one or more individuals stretched or coiled on the rocks, taking a sun bath. They take to the water readily when disturbed. One small specimen of *T. Sipedon* which I pulled rather roughly out of a hole in rocks bit me in return, but I kept it alive for some time afterwards and it never in all later handling bit me again.

I secured one large specimen of the Milk Snake (*Ophibolus dolius triangulus*) which one of Mr. White's daughters killed and brought home. There is such a general dread of snakes whether venomous or not that I always feel very much pleased to meet with anyone who is not afraid of them. Certainly the nonvenomous snakes are entirely beneficial, or nearly so, and should be kindly treated and protected; and yet how often we find them all crushed and mangled where someone, ignorant of their good qualities and with no appreciation of their beauty, has ruthlessly destroyed.

I caught one very pretty little grass snake (*Liopeltis vernalis*) but this species does not appear to be very common. Black snakes (*Bascanion constrictor*) were quite abundant and I obtained several specimens, some of them being of large size. The moccasin (*Agkistrodon concolor*) is the only venomous snake that occurs at all commonly in this neighborhood. I did not see any of them on my last trip although I heard of several that were killed during my stay. They are found usually about the rocks and in black-berry patches and not a few are killed when the wheat, large quantities of which is grown, is being harvested. I obtained some interesting data in regard to the use of "Rattlesnake Master Weed" as an antidote for the bite of

a moccasin which I hope to use in a future article.

The interest of the northern collector is immediately aroused by the number of box turtle (*Cistudo Carolina*) or "terrapin," which one meets with in the southern states. In my own state (Rhode Island) box turtles are very seldom met with but in Virginia scarcely a day passed that I did not meet with one or more of these animals and I did not make any particular search for them. There was a great difference in the color and design of the markings on the carapace and plation. Some individuals were almost a complete black while others were nearly covered with yellow markings. There was a considerable variation in shape also. If one can judge anything of their age by the amount that they grow in a certain number of years, some of those that I noticed must have been very old. The boys in the neighborhood often cut their initials and the date into their terrapin and I found some that had been so marked as much as fifteen years before and as they must have been of good size when the marking was done they did not appear to have grown much in that time. From this I judge they live to be very old.

I saw no other land turtles but one night we seined the run securing quite a varied collection of fish, turtles and other fresh water animals some of which I shall mention. The fish I am not well enough aquainted with to describe. I think we obtained as many as six species and they proved to be very good from an epicurian standpoint when served on the table next day. Several eels (*Augville Chrysypa*) were also caught in the net.

Of the fresh water turtles we secured three species; we caught one specimen, not a very large one of the "snapper" (*Chelydra Serpentina*.) The Painted turtle (*Cehrysemys picta*) appeared to be quite common. They are locally known as "skilpots" though why so named I have yet to learn.

I also secured specimens of another turtle which I have not yet determined. Both this and the preceding species occur very abundantly throughout the streams and ponds of Fauquier Co.

I did not meet with any other turtles on either of my trips to this part of Virginia and think that these four species are the only ones occurring at all commonly in this section.

Many cray fish (*Cambavus affinis*) were caught in the seine and I also found this crustacean quite abundant in various springs and little streams in the neighborhood. One large female taken in August had some eight or ten young clinging to its body. Mr. White showed me the remains of some of their burrows in one of his meadows where they reside at certain periods of the year. In general appearance they are very much like diminutive lobsters and they move around in the same manner. Various other interesting animals such as insect larvae, fresh-water unios, etc., were obtained in this night seining, but I did not save these specimens and shall not try to treat of them in this paper.

So far I have not said much in regard to the birds which were very abundant both in number and species. Perhaps the most noticeable bird is the Turkey Buzzard, that famous scavenger which saves the southern farmer the trouble of burying any dead animals. The buzzards are very common in this section. I have seen twenty-five or thirty at one time flying around, often at a height so high in fact that one wonders how they ever managed to locate any objects on the ground. They breed at various points on the rocky mountain side in spring months.

Of the various other birds which I noticed I shall simply give a list which like the foregoing lists of mammals, reptiles, etc., is far more complete. I hope that the production of these few notes may induce some other collector to send in their contribution to these columns. Surely among the

great number of subscribers to this paper there must be many who have notes that would be of interest and value to us all. Let us hear from you.

*Aix sponsa*, Wood Duck.  
*Ardea herodias*, Great Blue Heron.  
*Ardea virescens*, Green Heron.  
*Nycticorax nycticorax naevius*, Black-crowned Night Heron.  
*Actitis macularia*, Spotted Sandpiper.  
*Charadrius dominicus*, American Golden Plover.  
*Aegialitis vocifera*, Killdeer.  
*Colinus virginianus*, Bob White.  
*Bonasa umbellus*, Ruffed Grouse.  
*Meleagris gallopavo*, Wild Turkey.  
*Zenaidura zenaidura macroura*, Mourning Dove.  
*Cathartes aura*, Turkey Vulture.  
*Accipiter cooperi*, Cooper's Hawk.  
*Buteo lineatus*, Red-shouldered Hawk.  
*Falco sparverius*, Am. Sparrow Hawk.  
*Asio wilsonianus*, Am. Long-eared Owl.  
*Megascops asio*, Screech Owl.  
*Bubo virginianus*, Great Horned Owl.  
*Dryobates villosus*, Hairy Wood-pecker.  
*Dryobates pubescens*, Downy Woodpecker.  
*Melanerpes erythrocephalus*, Red-headed Woodpecker.  
*Colaptes auratus*, Flicker.  
*Antrostomus vociferus*, Whip-poor-will.  
*Chætura pelagica*, Chimney Swift.  
*Trochiculus coluebris*, Ruby-throated Hummer.  
*Tyrannus tyrannus*, Kingbird.  
*Sayornis phoebe*, Phoebe.  
*Empidonax minimus*, Least Fly-catcher.  
*Corvus americanus*, Am. Crow.  
*Sturnella magna*, Meadow Lark.  
*Spinus tristis*, Am. Goldfinch.  
*Spizella socialis*, Chipping Sparrow.  
*Spizella pusilla*, Field Sparrow.  
*Melospiza fasciata*, Song Sparrow.

*Pipilo erythrophthalmus*, Towhee.  
*Cardinalis cardinalis*, Cardinal.  
*Passerina cyanea*, Indigo Bunting.  
*Piranga rubra*, Summer Tanager.  
*Piranga erythromelas*, Scarlet Tanager.  
*Chelidon erythrogaster*, Barn Swallow.  
*Clivicola riperia*, Bank Swallow.  
*Vireo olivaceus*, Red-eyed Vireo.  
*Mniotilla varia*, Black and White Warbler.  
*Dendroica aestiva*, Yellow Warbler.  
*Dendroica discolor*, Prairie Warbler.  
*Seivrus avrocapillus*, Oven-bird.  
*Icteria virens*, Yellow-fr. Chat.  
*Sylrrania mitrata*, Hooded Warbler.  
*Geothlypis trichas*, Maryland Yellow Throat.  
*Anthus pensylvanicus*, Am. Pipit.  
*Galeoscoptes carolinensis*, Catbird.  
*Troglodytes aedon*, House Wren.  
*Turdus mustelinus*, Wood Thrush.  
*Merula migratoria*, Am. Robin.  
T. P. DROWNE.

#### An Indian Mound Opened.

An Indian mound on the top of a bluff overlooking the Huron river at a point a few miles below Ann Arbor, was opened Saturday, November 18, by Dr. W. B. Hinsdale, dean of the homœopathic department of the University of Michigan. Within was found a skeleton, two earthen pots and about a dozen small implements. The skeleton, which was that of a man, was lying on an oval bed of burnt clay. Its head was pointed towards the west. The position of the bones seemed to indicate that the body had been buried in a sitting posture. On the skeleton's left hand was a pile of bones not human. Among these were the two front teeth of a beaver. The implements in the pots included several arrow points, a number of awls made out of antlers, a copper needle and a barbed fishing spear. The spear was also made of an antler.

The teeth in the skull were all sound

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and were about one-third ground down, the edges being flat and smooth instead of pointed and sharp. The two eye teeth were slightly forward of the others.

The mound was about 15 feet in diameter, and originally several feet high, but as it had been plowed over for many seasons it had become somewhat reduced in size. The skeleton was found about four feet below the surface.

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**Thoreau's Mission!**

(*Bradford Torrey in the November Atlantic*)

With Thoreau the study of nature was not an amusement, says Bradford Torrey in the *November Atlantic*, nor even a serious occupation for leisure hours, but the work of his life,—a work to which he gave himself from year's end to year's end, as faithfully and laboriously, and with as definite a purpose, as any Concord farmer gave himself to his farm. He was no amateur, no dilentant, no conscious hobbyist laughing between times at his own absorption. His sense of a mission was as unquestionable as Wadsworth's, though happily there went with it a sense of humor that preserved it in good measure from over-emphasis and damaging iteration.

In degree, if not in kind, this whole-hearted, lifelong devotion was something new. It was one of Thoreau's originalities. To what a pitch he carried it, how serious and all-controlling it was, the pages of his journal bear continual witness. His was a puritan conscience. He could never do his work well enough. After a eulogy of winter buds, "impregnable, vivacious willow catkins, but half asleep along the twigs" (there, again, is fancy of an uncloying type), he breaks out: "How healthy and vivacious must he be who would treat of these things. You must love the crust of the earth on which you dwell more than the sweet crust of any bread or cake; you must be able to extract nutriment out of a sand

heap." "Must" was a great word with Thoreau. In hard times especially, he braced himself with it. "The winter, cold and bound out, as it is, is thrown to us like a bone to a famished dog, and we are expected to get the morrow out of it. While the milkmen in the outskirts are milking so many scores of cows before sunrise, these winter mornings, it is our talk to milk the winter itself. It is true it is like a cow that is dry, and our fingers are numb, and there is none to wake us up. But the winter was not given us for no purpose. We must thaw its cold with our genialness. We are tasked to find out and appropriate all the nutriment it yields. If it is a cold and hard season, its fruit, no doubt, is the more concentrated and nutty."

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**A Correction**

Dear Mr. Webb:

Some time since there appeared in the Museum, over my name, an article on our members of the carpodaci. Since then I have become convinced by further study, and by correspondence with those familiar with the birds of this county, that I was in error and that what then appeared to me to be different species were but different phases of the same species,—*Carpodacus mexicanus frontalis*.

Several friends in the east have written me concerning these birds and wished me to get them sets and skins of the two rarer species. This of course I cannot do, as I am now fully convinced that neither of them breed in this county.

Should you see fit to print this letter I will deem it a great favor, not only to myself but to any of your readers who may have been misled by my notes.

Sincerely Yours,

HARRY H. DUNN.

Fullerton, Cal.

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